

CLAIMS

1. A continuous method for rinsing a cleaned object, which has been cleaned with a cleaning chemical liquid having acidity or alkalinity, comprising the steps of:

    immersing the object in a rinse bath filled therein with pure water;

    continuously feeding pure water to the rinse bath so as to rinse off the cleaning chemical liquid from a surface of the object;

    adding a neutralizing chemical liquid, which has alkalinity or acidity opposite to that of the cleaning chemical liquid, to the pure water in the rinse bath during said continuous feeding of said pure water to said rinse bath thereby producing a salt by neutralizing said cleaning chemical liquid with said neutralizing chemical liquid; and

    continuously overflowing said rinse bath thereby discharging the residual pure water and said salt from said rinse bath.

2. The method as defined in claim 1, wherein the neutralizing chemical liquid is emitted together with the pure water toward the cleaned object in the rinse bath.

3. The method as defined in claim 1, wherein the neutralizing chemical liquid is added to the rinse bath after a predetermined period of time from the start of feeding of the pure water to the rinse bath has lapsed.

4. The method as defined in claim 1, wherein the neutralizing chemical liquid is added to the rinse bath concurrently with the start of feeding of the pure water to the rinse bath.

5. The method as defined in claim 1, wherein the cleaning chemical liquid is one of a sulfuric acid-hydrogen peroxide mixture and a hydrochloric acid-hydrogen peroxide mixture and the neutralizing chemical liquid is an aqueous ammonia solution

6. The method as defined in claim 1, wherein the cleaning chemical liquid is an ammonia-hydrogen peroxide mixture and the neutralizing chemical liquid is sulfuric acid.

7. The method as defined in claim 1, wherein the cleaned object is selected from the group consisting of a semiconductor wafer, a silicon wafer and glass components for liquid crystal displays.

8. A continuous method for rinsing a cleaned object which has previously been cleaned with a cleaning chemical having acidity or alkalinity, comprising the steps of:

immersing said cleaned object in a rinse bath containing pure water;

continuously feeding pure water to said rinse bath so as to rinse off residual cleaning chemical from a surface of said cleaned object;

adding a neutralizing chemical which has alkalinity or acidity opposite to that of the cleaning chemical to said pure water in said rinse bath; reacting said neutralizing chemical and said residual cleaning chemical to form a salt; and removing said object from said rinse bath, said rinsing process being conducted using a single immersion step.

9. The method as defined in claim 8 wherein the said rinse bath is continuously overflowed thereby discharging residual pure water, neutralizing chemical and salt.

10. The method as defined in claim 9, wherein the said neutralizing chemical is added to said rinse bath after a predetermined period of time from the start of feeding of said pure water to said rinse bath as elapsed.

11. The method as defined in claim 9 wherein said neutralizing chemical is added to said rinse bath concurrently with the start of feeding of said pure water to said rinse bath.

12. The method as defined in claim 8 wherein the cleaning chemical is a sulfuric acid-hydrogen peroxide mixture or a

hydrochloric acid-hydrogen peroxide mixture and wherein said neutralizing chemical is an aqueous ammonia solution.